WHITE—DIVISION OF WATER RESOURCES
CANARY—CLIENT'S COPY
PINK—WELL DRILLER'S COPY

STATE OF NEVADA
DIVISION OF WATER RESOURCES

WELL DRILLERS REPORT

Please complete this form in its entirety

PRINT OR TYPE ONLY

OFFICE USE ONLY
Log No. 82049
Permit No.
Basin 6-87

1/4

NOTICE OF INTENT NO.

1. OWNER Client Brown & Caldwell
MAILING ADDRESS 723 S Street
Sacramento CA 95814-7092

ADDRESS AT WELL LOCATION ARCO Station 6017
2240 B Street
Sparks NV 89431

2. LOCATION NE ¼ NE ¼ Sec. 6 T. 19N N/S R. 20 E WMDB&M County
PERMIT NO. M/o 500 (Issued by Water Resources) | Parcel No. | El Rancho & B Streets (Subdivision Name)

3. TYPE OF WORK
New Well ☐ Recondition ☐
Deepen ☐ Other MW ☐

4. PROPOSED USE
Domestic ☐ Irrigation ☐ Test ☐
Municipal ☐ Industrial ☐ Stock ☐

5. TYPE WELL
Cable ☐ Rotary ☐
Other ☐

6. LITHOLOGIC LOG

Material	Water Strata	From	To	Thickness
Attached				
Well #SA-3				

Date started 5/8/, 1989
Date completed 5/9/, 1989

7. WELL TEST DATA

Pump RPM	G.P.M.	Draw Down	After Hours Pump

BAILER TEST
G.P.M. ..... Draw down ..... feet ..... hours
G.P.M. ..... Draw down ..... feet ..... hours
G.P.M. ..... Draw down ..... feet ..... hours

8. WELL CONSTRUCTION
Diameter hole ..... inches Total depth ..... feet
Casing record .....
Weight per foot ..... Thickness .....

Diameter	From	To
inches	feet	feet
inches	feet	feet
inches	feet	feet
inches	feet	feet
inches	feet	feet
inches	feet	feet

Surface seal: Yes ☐ No ☐ Type .....
Depth of seal ..... feet
Gravel packed: Yes ☐ No ☐
Gravel packed from ..... feet to ..... feet

Perforations:
Type perforation .....
Size perforation .....
From ..... feet to ..... feet
From ..... feet to ..... feet
From ..... feet to ..... feet
From ..... feet to ..... feet
From ..... feet to ..... feet

9. WATER LEVEL
Static water level 33.0 feet below land surface
Flow ..... G.P.M. ..... P.S.I.
Water temperature ..... ° F. Quality .....

10. DRILLERS CERTIFICATION
This well was drilled under my supervision and the report is true to the best of my knowledge.

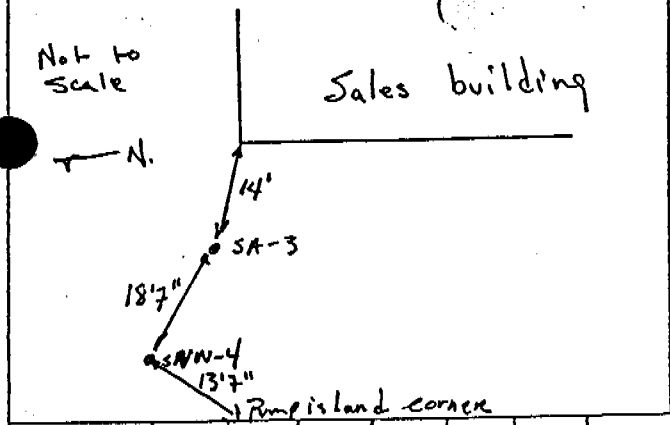
Name ..... (Contractor)
Address ..... (Contractor)
Nevada contractor's license number .....
Nevada contractor's drillers number .....
Nevada driller's license number ..... (Actual Driller)
Signed ..... (Contractor)
Date .....

USE ADDITIONAL SHEETS IF NECESSARY

(Rev. 6-81) O-627 CR434

BROWN AND CALDWELL — BORE HOLE LOG

LOCATION OF BORING



CLIENT	ARCO PRODUCTS COMPANY			
LOCATION	2240 B' ST, SPARKS, NV.	JOB NO.	4165	
WATER LEVEL	33.0'	(32.58'	from TOC)	
TIME	0930	1150		
DATE	5/9/89	5/11/89		
CASING DEPTH				

BORING NO. SA-3

SHEET 1 OF 3

DRILLING	
START	FINISH
TIME 0900	TIME 1000
DATE 5/8/89	DATE 5/9/89

DRILLING CONTRACTOR WAYNE DRILLING

DRILLING METHOD ODEX 190 System with 8 5/8" L.H. Drive casing

SAMPLING METHOD 5 3/8" Tubing (T)

N/S E/W TOC ELEV. 4,500.35'

SURFACE CONDITIONS Asphalt

WELL CONST. CASING	WELL CONST. ANNULUS	SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	SAMPLE NO. / SAMPLE DEPTH	BLOWS/6" SAMPLER	DEPTH IN FEET	SOIL CALLOUT	MATERIALS ENCOUNTERED AND DRILLING CONDITIONS (*)
	CNI					0	Asphalt	0-1ft; Asphalt - hit pipe move 2ft west 1ft north - hit another utility move 2ft west and avoid any utilities
lock	concrete					1		
		H/A				2	GP	1.0-4.0 ft.; ~~[illegible]~~ sandy gravel; 60% fine to medium gravel, rounded, ~~[illegible]~~ consists of granitics; 30% v.fine to medium sand, rounded to subrounded, well graded, ~~[illegible]~~ 5% boulders, .25-.50 ft. indidameter, rounded, consisting of mafic volcanics; 5% nonplastic fines, loose, moist, Moderate brown (5YR 4/4). No HC odors detected or noticed in borehole cuttings.
						3		
	grout seal					4		
casing						5		
						6		
						7		4.0-5.0 ft.; ~~Clayey~~ Silty gravel; 70-80% fine to medium ~~[illegible]~~ gravel, rounded, ~~well graded~~, ~~[illegible]~~ consisting of mafic fine grained volcanics, 10% ~~[illegible]~~ non plastic fines; 10% ~~[illegible]~~ v.fine sand, loose to slightly firm, moist; easily drilled, Moderate brown (5YR 4/4). No HC odors observed in borehole cuttings.
	cement					8		
						9		
blank						10		
	neat	ODEX.				11		5.0-7.0 ft.; same as above at 1.0 to 4.0 feet below grade.
						12		
PVC						13	GC	7.0-8.0 ft; same as above at 4.0-5.0 feet below grade
Sch 40						14		8.0-9.0 ft; same as above at 1.0-4.0 ft. below grade.
						15		
4" ID	bentonite					16	GP	9.0-10.0 ft.; Same as above at 4.0-5.0 Ft. except for color Olive gray (5Y 3/2).
						17		10.0-12.5 ft.; Sandy ~~gravel~~ boulders; 70% boulders, 0.5-1.0 ft in diameter, rounded, consists of fine grained mafic volcanics with same granitic source rocks; 20% v.fine to medium coarse sand rounded, well graded, ~~[illegible]~~; 10% medium gravel, rounded, contains pumice frags. ~~[illegible]~~ ~~[illegible]~~ hard drilling, moist, Black (N1) chips with Moderate brown (5YR 3/4) sand & fines. No HC
						18		
	#3 Monterey Sand					19	GC	
.020 Slot						20	GP	

(*) Estimated percentage from cyclone discharge

DRILLER Tilton - Schramm RIG 7660 BY Tim Lavel DATE 5/9/89 CHK'D BY

2/4 Log ft 3249

BROWN AND CALDWELL — BOREHOLE LOG

3/4

LOCATION OF BORING

See pg. #1

CLIENT	ARCO PRODUCTS COMPANY		
LOCATION	2240 B ST, SPARKS, NV	JOB NO.	4165
WATER LEVEL	33.0'	(32.58')	from TOC
TIME	6930	1150	
DATE	5/9/89	5/11/89	
CASING DEPTH			

BORING NO. SA-3

SHEET 2 OF 3

DRILLING	
START	FINISH
TIME 0900	TIME 1000
DATE 5/8/89	DATE 5/9/89

DRILLING CONTRACTOR WAYNE DRILLING

DRILLING METHOD ODEX

SAMPLING METHOD 5 3/8" Tubing (T)

N/S | E/W | TOC ELEV. 4500.35'

SURFACE CONDITIONS Asphalt

Log # 32049

WELL CONST. CASING	WELL CONST. ANNULUS	SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	SAMPLE NO. / SAMPLE DEPTH	BLOWS/6" SAMPLER	DEPTH IN FEET	SOIL CALLOUT
4" 10 Sch 40 PVC	.020 Slotted Casing	ODEX				20	GP
	Sand					21	
						22	
						23	GC
						24	
		Tubing				25	
						26	
						27	
						28	
						29	
						30	
						31	
	# 3 Monterey					32	GP
						33	
						34	GC
						35	
						36	
						37	SW/GW
						38	GC
						39	
						40	

MATERIALS ENCOUNTERED AND DRILLING CONDITIONS

12.5-15.0 ft; ~~[illegible]~~ clayey cobbles; 60% ~~[illegible]~~ cobbles, rounded, ~~[illegible]~~, consists of mafic fine grained volcanics; 20% medium ~~[illegible]~~ plastic fines; 20% v. fine to medium sand, rounded, well graded ~~[illegible]~~; ~~[illegible]~~ loose to firm; easily drilled; moist; Cobbles are black (N1); sand & clay are Olive gray to lt. brown (5Y 3/2) to (5YR 5/6). No HC odors noted OR observed in borehole cuttings.

15.0-18.0 ft.; ~~[illegible]~~ gravelly boulders; 60% boulders 1.0-1.5 ft in diameter, rounded, consisting of fine grained mafic volcanics & some granitics, 30% medium gravel, rounded, ~~[illegible]~~; 10% low plastic fines, v. hard drilling, moist; ~~[illegible]~~ Boulders & gravels black (N1), ~~[illegible]~~ Clay moderate brown (5YR 4/4). No HC odors detected or noted in borehole cuttings.

18.0 — 19.0 ft; Same as above at 12.5-15.0 ft. below grade - Olive gray (5Y 3/2).

19.0-23.0 ft.; ~~[illegible]~~ gravelly boulders; 50% boulders 0.5 - 1.0 feet in diameter; consisting of mafic fine grained volcanics, 30% fine to medium gravel, rounded, ~~[illegible]~~ consisting of pumice frags & basalts; 10% cobbles, rounded, consists of mafic volcanics, 10% medium plastic fines; very hard drilling; moist to dry; Cobbels Boulders and gravels were Black to Med. Gray (N1)-(N6) and clays are Olive gray (5Y 3/2). Slight HC odor - very slight (TLV measurement recorded ≈ 20ppm TPH).

23.0-27.0 ft; Same as above at 12.5 to 15.0' below grade - Slight HC odor noted in samples collected from 27.0' Tubing driven to refusal at 27.5 ft. Samples at 26 & 27 foot int. Collected (SA-3-1) and (SA-3-2) respectively

DRILLER [illegible] RIG 7660-Schramm

BY [illegible] DATE 5/8/89 CHK'D BY

BROWN AND CALDWELL — BOREHOLE LOG

4/4

LOCATION OF BORING

See pg. #1

CLIENT	ARCO PRODUCTS COMPANY			
LOCATION	2240 B' ST, SPARKS, NV.	JOB NO.	4165	
WATER LEVEL	33.0'	32.58'	(from TOC)	
TIME	0930	11:50		
DATE	5/9/89	5/11/89		
CASING DEPTH				

BORING NO. SA.3

SHEET 3 OF 3

DRILLING	
START	FINISH
TIME 0900	TIME 1000
DATE 5/8/89	DATE 5/9/89

DRILLING CONTRACTOR WAYNE DRILLING

DRILLING METHOD ODEX

SAMPLING METHOD 5 3/8" Tubing (T)

N/S | E/W | TOC ELEV. 4,500.35'

SURFACE CONDITIONS Asphalt

Log # 32049

WELL CONST. CASING	WELL CONST. ANNULUS	SAMPLER TYPE	INCHES DRIVEN / INCHES RECOVERED	SAMPLE NO. / SAMPLE DEPTH	BLOWS/6" SAMPLER	DEPTH IN FEET	SOIL CALLOUT
4" ID PVC sch 40 .020 slot casing	#3 Monterey Sand	ODEX				40	GC
						41	
						42	
						43	
						44	
						45	
						46	
						47	
						48	
						49	
						50	
						51	
						52	
						53	
						54	
						55	
						56	
						57	
						58	
						59	
						60	

MATERIALS ENCOUNTERED AND DRILLING CONDITIONS

27.0-31.0 ft.; ~~[illegible]~~ sandy boulders; 50% boulders, rounded, 1.0-1.5 ft in diameter, consisting of mafic volcanics; 30% v. fine to medium sand, rounded, well graded, ~~poorly sorted~~, consists of quartz & other rock fragments; 20% med. plastic fines; firm to slight hard, very hard moist to very moist; Boulders are Black (N1). Sand and plastics are Moderate brown (5YR 4/4). No to slightly odorous with HC in borehole cuttings.

31.0-34.0 ft.; Pebbly sandy gravel; 40% ~~medium~~ coarse ~~[illegible]~~ gravel, rounded, ~~moderately graded~~, ~~poorly sorted~~, consisting of volcanics that are mafic; 20% fine to medium coarse sand, rounded, well graded, poorly sorted; ~~[illegible]~~ ~~[illegible]~~ 10% plastic fines, saturated at 32-33 ft, No HC odors observed; Moderate brown (5YR 3/4).

34.0-36.5 ft.; ~~[illegible]~~ gravelly cobbles - 60% ~~medium~~ cobbles, rounded, consisting of mafic volcanics; 20% medium ~~[illegible]~~ gravel, rounded ~~moderately well graded~~, ~~poorly sorted~~, consists of pumice & other volcanics that are fine grained & mafic; 20% ~~[illegible]~~ low plastic fines; Moderate brown (5YR 4/4). No HC odors observed from borehole cuttings.

36.5-38.0 ft; gravelly sand; 70% v. fine to coarse ~~gravel~~ sand, rounded, well graded, ~~poorly sorted~~, contains quartz; 20% medium gravel consisting of volcanics that are mafic, rounded poorly graded; 10% low plastic fines; saturated, Dark yellowish Orange (10YR 6/6).

38.0-50 ft; Same as above at 34.0-36.5 ft below grade.

DRILLER Gary Heeman & Rick Mortman

RIG TEO-Schramm

BY Tim Havel

DATE 5/8/89

CHK'D BY