TECTON GEOLOGIC

COMPANY	Oxxel
WELL	Bradley 56-16 (P-3)
FIELD	Bradley
COUNTY/STATE	Imperial, California
WELL HEAD COORDINATES	
2100'N & 1850'W of SE Corner 16 T-13S R-14E	
ELEVATION	1140' MSL
SPUD DATE	04/28/08
TD DATE	05/1/08
TOTAL DEPTH	3712'
MUD HEATING DEPTH	3712'
TD LOCATION	
CONTRACTOR	Carbon RIT
COMPANY REPRESENTATIVE	Turner, Valentine

LOG INTERVAL

DATE LOGGED	04/28/08	TO	05/04/08
DEPTH LOGGED	309'	TO	3712'
MUD DRILLING	309'	TO	3712'
AIR DRILLING		TO	
LOG SCALE	1:600	UNIT NO.	1

LOGGING ENGINEERS

McLaughlin, Rodriguez

Pardal

HOLE

26"	TO	310'	
22"	TO	1952'	
15.5"	TO	3712'	
	TO		
	TO		
	TO		

CASING

22"	FROM 0'	TO	309'
16"	FROM 0'	TO	1952'
13.375"	FROM 1899'	TO	3675'
	FROM	TO	
	FROM	TO	

ABBREVIATIONS

NB	New Bit	BHT	Bottom Hole Temp
RB	Rerun Bit	C	Carbide Insert
DB	Dull Bit	ND	No Decrease
CB	Core Bit	TD	Total Depth/Date Trip
SPM	Strokes per Minute	CPM	Cubic Feet per Min
BUR	Dog Leg Severity	BOT	Bottom Up Temp
DPM	Drillings per Min		

SYMBOLS

Wireline Log	Casing Shoe
Cross/Water Entry	Flow Test
	Core Interval
Deviation Survey	No Recovery

LITHOLOGY

- Clay
- Claystone
- Siltstone
- Sand
- Sandstone
- Gravel/Conglomerate

REMARKS

All depths from TD Kelly Bushing
Survey Temperatures from MWT

SECONDARY MINERALS

G - Quartz		Rare	<< 1%
C - Calcite		Trace	< 1%
P - Pyrite		Common	1 - 5%
Ch - Chlorite		Abundant	5 - 20%
Ch+ - Chlorite		Common	>20 to 75%
H - Hematite		Abundant	75 to 125%
Ho - Hydrophile			> 125%

Tecton Geologic — Oxxel 56-16 (P-3) — Scale 1 : 600

Drilling Data	Lithology	Minerals	Temperatures / Circulation	Gas Analysis / Descriptions
ROP (m/hr) 200 TO/hr Weight on Bit 0 - 10k lbs			Temperature In / Temperature Out 0 deg F 250 Circulation: Drill Fluid, Air, Foam, Aerated Water, Mud, Lost Circ.	Carbon Dioxide ppm 10000

Oxxel Well 56-16 (P-3) on 4/28/08. 30" conductor set at 80'. Drill ahead with 26" bit.

Drill 26" hole to 310'. Run 16 jnts 20' 75# grade B PCSB FW liner to a depth of 309'. Drill ahead w/20" bit.

Send clr,wt,orng,lt grn, unconsol,v fr-fm gra,well srtd,subrnd-rnd,dom sts,r-r ppr,r-r sub-angl/ppr,r-r chlorite,v wtx,kaolinite,w/intervals of Sandstone:brown colored-orng,med hd,wkly cemented v fr-fm gr, v fr-fm sub-angl/ppr, grs,mica,lithics,frlsic, r-br ppr.

Sandstone:cre colored-orng, sft-fm,pliy indurated,wkly cemented w/shale, v fr-fm gr,med srtd,dom subang-subrnd sts,r-r ppr,r-r sub-angl/ppr, r-r chlorite,r-r lake fossils.

Send clr,wt,orng,brn, unconsol,gra,pred sts,gra, r-fr ign/volc gra,v fr-med gr,pred med gr,sub-angl-rnd,fair-mod sorted,com fals coated gra & wht calc frags,occ fr-chorted metric, occ chlorite & lake fossils.

Send clr,wht,yel,gra,red, unconsol,pred sts gra,mer ppr,r-r sub-angl/ppr,r-r sub-rnd,med sorted,r-fair coated gra, r-r chorted gra,r-r chr/hum mica,tr blk organic material,r-r ppr/lake ppr.

Clay lt brn,med gra,v sft, sol,sticky-gumy,abun calc matrix,r-fair organic mat,occ v fr sand,slit:Sandstone: v fr-fm gr,v fr-med gr,med sl-med fr,sub-v hd,pred gra gra,r-fr ign/volc gra,mer clay mtx,r-fr mod gr,subrnd-rnd,pred med sorted,mer-com fals coated gra,r-fr chorted gra,r-lor mer fr blk organic mat.

Send clr,wt,orng,lt grn, unconsol,gra,pred sts gra, r-fr ign/volc gra,loc r-mer chlorite gra,v fr-med gr, sub-angl-rnd,fair-mod sorted,mer calc coated gra,r-lor musc/biot mica,occ alt biot mica,r-lor blk organic material.

Send clr,trans,wht,tan,var col,unconsol,v fr-fm gra, med srtd,subrnd-rnd, dom qtz,r-tr volc lithics, fair-pre calc,r-tr ppr,r-lor chlorite gra,r wht mica,r blk biotite.

Send clr,wt,orng,lt grn, unconsol,gra,pred sts gra, med gra,loc com volc med gra,subrnd-rnd,med well sorted,com calc,r sub ppg/ppr,r hem,r chlorite micas,mer blk organic material.

Clay lt-med brn,occ brick red,v sft-sft,med stickyv sl sticky,com-abun silt & v fr-fr sand,slit: Sandstone: v fr-fm gra,v fr-med gr,sub-angl-rnd,mod sorted,com calc, br-mer wht mica & chlor, short intervals w/red:abun band med brn & var colors, v fr-fm gra,v fr-med gr,subrnd-rnd, grades to coarse silt,com-abun calc in matrix,loc gravels of Claystone:lt-med brn,fm,com silt & fr sand, br-mer ably silt mus.

Clay lt-med brn,occ brick red,v sft-sft,med stickyv sl sticky,com-abun silt & v fr-fr sand,slit:v fr-fm gra,v fr-med gr,subrnd-rnd, grades to coarse silt,com-abun calc in matrix,loc gravels of Claystone:lt-med brn,fm,com silt & fr sand, br-mer ably silt mus.

Clay lt-med brn,v sft-soc stickyv sl sticky,com-abun calc matrix,med sol,r-r fr blk organic mat,Claystone:lt gry,sft-soc fm,com-abun v fr-fm mes,smooth tex,str calc matrix,r-fair coated gra,r-lor pliy srtd,abun fr med gra r loc gra volcs,r-fr diam ppr,inbed w/Sandstone:wht gra,com,fm,fnd fn gr,pr srtd,dom qtz pr/clay/ppr,r-lor chlorite,r-lor calc cement,r-mer agglisam ppr,r chlorite micas.

Send pred clr,wht,orng,grn, unconsol,gra,pred sts gra, r-mer ign/volc gra,subangrnd,mod sorted,tr musc/biot/chlor micas,tr blk organic material.

Claystone lt-med gry,orng-brn,fm-v sft,mass,platy,loc silty,com calc matrix,r loc diamd/ppg pyr,tr blk organic material,Sandstone:wht,pale tan,lt gry,fm-v sft & friable, com bind ppg,v fr-fr gr,med srtd,ang-subrnd,com calc cmt,quartzose w/tr biotite & other mafics.

Drill 20" hole to 1952'. Run 47 jnts 16" 84# K-55 Buttress casing to 1952'. Drill ahead with 15" bit.

Send clr,trans,wht,var col, unconsol,v fr-fm gra, med well srtd,subrnd-rnd, dom qtz,r-tr volc lithics, mer-com calc,r-tr ppr,r-lor chlorite gra,r wht mica, biotite.

Sandstone:tan,wht,clear,v lt pnk,med hd,com fri,poorly indrated,pred qtz gra,r-lor volc gra,com-abun calc cement,lor calc matrix,pred v fr-fr gr,subrnd-rnd, med sorted,abun calc:mf/coated gra,r-lor diamd/ppg ppr,r chlorite micas,r-lor fn blk organic material.

Sandstone:org,red brn,tan, med hd,brittl,sl-med fr,pred qtz gra,com black organics,v fr-fm gra,loc grading to siltst,com-abun calc cement, abund calc matrix,r ppr,mer hem stng,loc intrbdd w/ Claystone:red brn,soft:fra, mass,smooth tex,blocky cuttings,mer calc matrix,com fn blk org material.

Claystone lt-med gry,red-brn, sft-fm,com glauc,mass, com silty w/com calc matrix, grass of well-med blond & resin (sugary text),r diamd/ppg ppr,com fn blk organics. Siltstone:lt-med brn & gry, loc red-brn,pred fm,loc hd, massive,sl platy,com calc matrix,loc bind,resin. Sandstone:lt-med brn,pred gra,intbdd w/ Sandstone:wht,pale tan:lt gry,pred sft:fm,loc hd w/ pliy silt matrix:others v fr-fm gra,v fr-med gr, med gr,sub-angl-rnd,pred srtd,pred qtz,loc com bind, wht mica,tr mafic grs,loc silicic overgrowths w/grs, r loc diamd/ppg & loc ex ppr,r loc aplit, r-fr chlorite gra.

Claystone lt-med gry,tr brn, sft-fm,mass,pred smooth tex,blocky cuttings,mer-com calc matrix,com fn blk org mat.

Sandstone:tan-v lt yel brn, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted,com-abun calc,loc r agg ppr,r-lor chlorite grayish/lor chlorite,mod/biot flakes,tr blk org mat.

Siltstone:lt-med gry, pred med hd,mass,sl-soc, mod calc matrix,abun silt, loc r diamd ppr,loc round wht non calc fossils,com fn blk organic material.

Sandstone:tan-v lt yel,soft-pkn,fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted,com-abun calc,loc r agg ppr,r-lor chlorite grayish/lor chlorite,mod/biot flakes,tr blk org mat.

Siltstone:lt-med brn,occ red brn,fm-loc med hd, mass,str:calc matrix,loc com v fr sand grs,r-v fn blk org mat.

Sandstone:tan-lt brn,wht, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted, abun calc,r diamd/ppg ppr, r-lor chlorite grayish/lor mica, r-lor mer fn blk organic mat.

Siltstone:v lt-lt gry,v lt-lt brn,fm-med hd,mass,str: calc matrix,platy:blocky cuttings,occ r-tr v fn sand, com mica,r-tr v fn org mat.

Sandstone:tan,wht,v lt brn, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,fair sorted, abun calc,r diamd/ppg ppr, r-lor chlorite grayish/lor mica, r-lor mer fn blk organic mat.

Send lt brn,clr,lt orng, wht,fr-mod unconsol,pred qtz gra,r-tr ign/volc gra, v fr-med gr,pred med gr,subangrnd,pred subrnd,med srtd, com calc matrix,com v fr sand,com-abun clay mtx, r-tr diamd/ppg ppr, r-lor chlor/musc mica,r blk organic material.

Sandstone:wht,tan,occ gry, v fr-fm gra,v fr-med gr, v fr-med srtd gra,r-tr ign/volc gra,mer clay mtx,v fr-med gr,subrnd-rnd, med sorted,abun calc matrix,com v fr sand, com-abun v fr-fr diamd/ppg ppr,r-lor chlor/musc mica,r blk organic material.

Clay lt-med brn,occ brick red,v sft-soc stickyv sl sticky,com-abun silt & v fr-fr sand,slit: Sandstone: v fr-fm gra,v fr-med gr,sub-angl-rnd,mod sorted,tr musc/biot/chlor micas,tr blk organic material.

Claystone lt-med gry,orng-brn,fm-v sft,mass,platy,loc silty,com calc matrix,r loc diamd/ppg ppr,tr blk organic material,Sandstone:wht,pale tan:lt gry,fm-v sft & friable, com bind ppg,v fr-fr gr,med srtd,ang-subrnd,com calc cmt,quartzose w/tr biotite & other mafics.

Send pred clr,wt,orng,grn, unconsol,gra,pred sts gra, r-mer ign/volc gra,subangrnd,mod sorted,tr musc/biot/chlor micas,tr blk organic material.

Claystone lt-med gry,orng-brn,fm-v sft,mass,platy,loc silty,com calc matrix,r loc diamd/ppg ppr,tr blk organic material,Sandstone:wht,pale tan:lt gry,fm-v sft & friable, com bind ppg,v fr-fr gr,med srtd,ang-subrnd,com calc cmt,quartzose w/tr biotite & other mafics.

Drill 20" hole to 1899'. Run 47 jnts 13" 54# K-55 Buttress casing to 1899'. Drill ahead with 12" bit.

Send clr,trans,wht,var col, unconsol,v fr-fm gra, med well srtd,subrnd-rnd, dom qtz,r-tr volc lithics, mer-com calc,r-tr ppr,r-lor chlorite gra,r wht mica, biotite.

Sandstone:org,red brn,tan, med hd,brittl,sl-med fr,pred qtz gra,com black organics,v fr-fm gra,loc grading to siltst,com-abun calc cement, abund calc matrix,r ppr,mer hem stng,loc intrbdd w/ Claystone:red brn,soft:fra, mass,smooth tex,blocky cuttings,mer calc matrix,com fn blk org material.

Claystone lt-med gry,red-brn, sft-fm,com glauc,massive, com silty w/com calc matrix, grass of well-med blond & resin (sugary text),r diamd/ppg ppr,com fn blk organics. Siltstone:lt-med brn & gry, loc red-brn,pred fm,loc hd, massive,sl platy,com calc matrix,loc bind,resin. Sandstone:wht,pale tan:lt gry,intbdd w/ Sandstone:wht,pale tan:lt gry,pred sft:fm,loc hd w/ pliy silt matrix:others v fr-fm gra,v fr-med gr, med gr,sub-angl-rnd,pred srtd,pred qtz,loc com bind, wht mica,tr mafic grs,loc silicic overgrowths w/grs, r loc diamd/ppg & loc ex ppr,r loc aplit, r-fr chlorite gra.

Claystone lt-med gry,tr brn, sft-fm,mass,pred smooth tex,blocky cuttings,mer-com calc matrix,com fn blk org mat.

Sandstone:tan-v lt yel brn, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted,com-abun calc,loc r agg ppr,r-lor chlorite grayish/lor chlorite,mod/biot flakes,tr blk org mat.

Siltstone:lt-med gry,occ red brn,fm-loc med hd, mass,str:calc matrix,loc com v fr sand grs,r-v fn blk org mat.

Sandstone:tan-lt brn,wht, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted,com-abun calc,r agg ppr,r-lor chlorite grayish/lor mica,r-fr fn blk org mat.

Siltstone:v lt-lt gry,v lt-lt brn,fm-med hd,mass,str: calc matrix,platy:blocky cuttings,occ r-tr v fn sand, com mica,r-tr v fn org mat.

Sandstone:tan,wht,v lt brn, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted, abun calc,r diamd/ppg ppr, r-lor chlorite grayish/lor mica, r-lor mer fn blk organic mat.

Send lt brn,clr,lt orng, wht,fr-mod unconsol,pred qtz gra,r-tr ign/volc gra, v fr-med gr,pred med gr,subangrnd,pred subrnd,med srtd, com calc matrix,com v fr sand,com-abun clay mtx, r-tr diamd/ppg ppr, r-lor chlor/musc mica,r blk organic material.

Sandstone:wht,tan,occ gry, v fr-fm gra,v fr-med gr, v fr-med srtd gra,r-tr ign/volc gra,mer clay mtx,v fr-med gr,subrnd-rnd, med sorted,abun calc matrix,com v fr sand, com-abun v fr-fr diamd/ppg ppr,r-lor chlor/musc mica,r blk organic material.

Clay lt-med brn,occ brick red,v sft-soc stickyv sl sticky,com-abun silt & v fr-fr sand,slit: Sandstone: v fr-fm gra,v fr-med gr,sub-angl-rnd,mod sorted,tr musc/biot/chlor micas,tr blk organic material.

Claystone lt-med gry,orng-brn,fm-v sft,mass,platy,loc silty,com calc matrix,r loc diamd/ppg ppr,tr blk organic material,Sandstone:wht,pale tan:lt gry,fm-v sft & friable, com bind ppg,v fr-fr gr,med srtd,ang-subrnd,com calc cmt,quartzose w/tr biotite & other mafics.

Drill 20" hole to 3675'. Run 87 jnts 13" 54# K-55 Buttress casing to 3675'. Drill ahead with 12" bit.

Send clr,trans,wht,var col, unconsol,v fr-fm gra, med well srtd,subrnd-rnd, dom qtz,r-tr volc lithics, mer-com calc,r-tr ppr,r-lor chlorite gra,r wht mica, biotite.

Sandstone:org,red brn,tan, med hd,brittl,sl-med fr,pred qtz gra,com black organics,v fr-fm gra,loc grading to siltst,com-abun calc cement, abund calc matrix,r ppr,mer hem stng,loc intrbdd w/ Claystone:red brn,soft:fra, mass,smooth tex,blocky cuttings,mer calc matrix,com fn blk org material.

Claystone lt-med gry,red-brn, sft-fm,com glauc,massive, com silty w/com calc matrix, grass of well-med blond & resin (sugary text),r diamd/ppg ppr,com fn blk organics. Siltstone:lt-med brn & gry, loc red-brn,pred fm,loc hd, massive,sl platy,com calc matrix,loc bind,resin. Sandstone:wht,pale tan:lt gry,intbdd w/ Sandstone:wht,pale tan:lt gry,pred sft:fm,loc hd w/ pliy silt matrix:others v fr-fm gra,v fr-med gr, med gr,sub-angl-rnd,pred srtd,pred qtz,loc com bind, wht mica,tr mafic grs,loc silicic overgrowths w/grs, r loc diamd/ppg & loc ex ppr,r loc aplit, r-fr chlorite gra.

Claystone lt-med gry,tr brn, sft-fm,mass,pred smooth tex,blocky cuttings,mer-com calc matrix,com fn blk org mat.

Sandstone:tan-v lt yel brn, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted,com-abun calc,loc r agg ppr,r-lor chlorite grayish/lor chlorite,mod/biot flakes,tr blk org mat.

Siltstone:lt-med gry,occ red brn,fm-loc med hd, mass,str:calc matrix,loc com v fr sand grs,r-v fn blk org mat.

Sandstone:tan-lt brn,wht, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted,com-abun calc,r agg ppr,r-lor chlorite grayish/lor mica,r-fr fn blk org mat.

Siltstone:v lt-lt gry,v lt-lt brn,fm-med hd,mass,str: calc matrix,platy:blocky cuttings,occ r-tr v fn sand, com mica,r-tr v fn org mat.

Sandstone:tan,wht,v lt brn, fm-med hd,v fr-v pred qtz gra,com wht felds gra,r-tr ign/volc gra,v fr-fr gr, calc clay mtx,med gr w/well srtd,subrnd-rnd,com sorted, abun calc,r diamd/ppg ppr, r-lor chlorite grayish/lor mica, r-lor mer fn blk organic mat.

Send lt brn,clr,lt orng, wht,fr-mod unconsol,pred qtz gra,r-tr ign/volc gra, v fr-med gr,pred med gr,subangrnd,pred subrnd,med srtd, com calc matrix,com v fr sand,com-abun clay mtx, r-tr diamd/ppg ppr, r-lor chlor/musc mica,r blk organic material.

Sandstone:wht,tan,occ gry, v fr-fm gra,v fr-med gr, v fr-med srtd gra,r-tr ign/volc gra,mer clay mtx,v fr-med gr,subrnd-rnd, med sorted,abun calc matrix,com v fr sand, com-abun v fr-fr diamd/ppg ppr,r-lor chlor/musc mica,r blk organic material.

Clay lt-med brn,occ brick red,v sft-soc stickyv sl sticky,com-abun silt & v fr-fr sand,slit: Sandstone: v fr-fm gra,v fr-med gr,sub-angl-rnd,mod sorted,tr musc/biot/chlor micas,tr blk organic material.

Claystone lt-med gry,orng-brn,fm-v sft,mass,platy,loc silty,com calc matrix,r loc diamd/ppg ppr,tr blk organic material,Sandstone:wht,pale tan:lt gry,fm-v sft & friable, com bind ppg,v fr-fr gr,med srtd,ang-subrnd,com calc cmt,quartzose w/tr biotite & other mafics.

Drill 20" hole to 3712'. Run 87 jnts 13" 54# K-55 Buttress casing to 3712'. Cement w/ 1000 sacks Class G Cement, Lead Cement Slurry 13.5 lb/gal, Tail Cement Slurry 15.8 lb/gal. Bump plug with 1800 psi. Pressure wash liner.

Lose returns at 2500' with 75 bbls drlnk, regain circ. Drill ahead losing 80 BPH.

Drill 19.75" hole to a total depth of 3712'. Aux Schlumberger Tri Combo Charge: Lower to 411 & Original Open hole to 15.5". Run 45 jnts of 13.375" 72#, L-80, Buttress casing to 1899'. Cement w/ 1000 sacks Class G Cement, Lead Cement Slurry 13.5 lb/gal, Tail Cement Slurry 15.8 lb/gal. Bump plug with 1800 psi. Pressure wash liner.

Lost circ at 2500'. Lost 75 bbls drlnk. Regain circ. Drill ahead losing 80 BPH