



HUSKY OIL NPR OPERATIONS, INC.  
U.S. GEOLOGICAL SURVEY/ONPRA

OK

CONVENTIONAL CORE DESCRIPTION FORM

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Well: LISBURNE TEST WELL # 1 Core No: 1

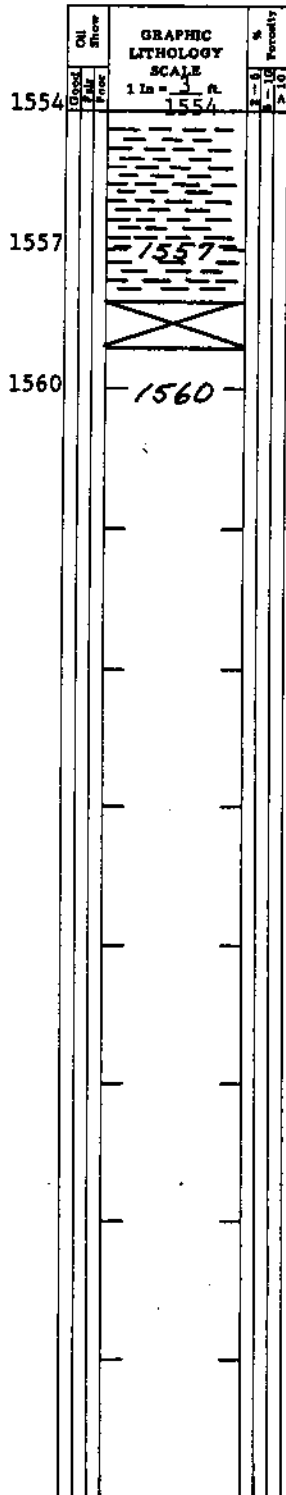
Date: 7/3/79 T.D. 1558.8'

Interval Cored: 1554.1 - 1558.8 (jammed) Formation: Fortress Mtn.

Recovery: 4' (85%) Core Diameter: 4 1/2" Inches

GENERALIZED CORE DESCRIPTION: Shale, dark gray, hard, rare carbonaceous material.

\*/



DETAILED CORE DESCRIPTION

Prepared By R.A. Wermeyer

Shale, dark gray, hard, rr carbonaceous material, micro-pyritic, micro-micaceous, highly fragmented & slickensided.

Note: This core very highly fragmented with the individual pieces showing slickensides. Largest pieces only 2"-3" long and only 1"-2" wide. Due to the fragmented nature of the core it caused the core to jam. Fragmentation was probably due to faulting.



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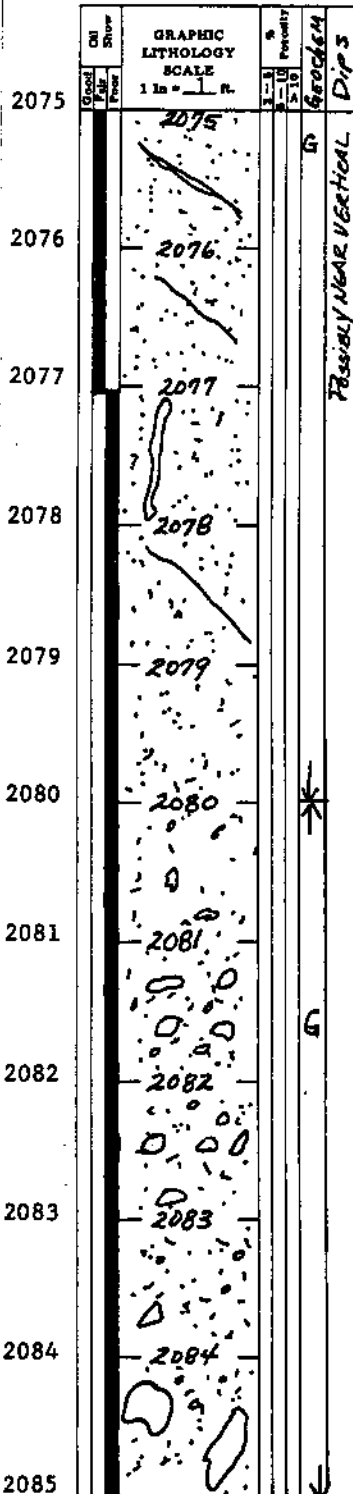
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Well: Lisburne No. 1 Core No: 2  
 Date: July 7, 1979 T.D. 2090.5'  
 Interval Cored: 2075'-2090.5' Formation: Fortress Mtn.  
 Recovery: 100 % Core Diameter: 4 3/4" Inches

GENERALIZED CORE DESCRIPTION: Gray Sandstone with common dark gray shale  
clasts, rare ls clasts, occasional traces of oil & gas on  
fractures and in rare small vugs.

#2



DETAILED CORE DESCRIPTION  
 Prepared By D.B. Young

2075 Sandstone, light gray, hard, fine-medium grained poorly sorted, lt. gray, green, black, white, few closed fracs; dip 45 deg; black asph. & sl. brn. oil, str w/ oil odor & good yel fluor; frac. calcite filled with sl. por. dev.

2076

2076.5' thin bed of asph. on frac plane; vertical green shale strg; Small shale clasts; some slump deformation.

2077

2078

2079

2080 Sandstone, light gray, hard, fine-med. grained, poorly sorted, white, light gray, clear, green rarely orange with occasional shale clasts; Rare trace bleeding oil & gas.

2081 Sandstone, light gray, becoming very coarse grained - pebbly, poorly sorted, subangular-subrounded; with few large gray shale and brown limestone clasts 2" by 3/4"

2082

2083

2084 Sandstone as above with increasingly large shale and limestone clasts 6" by 6"; occasional patch oil stain on breaks; non-effective por.

2085



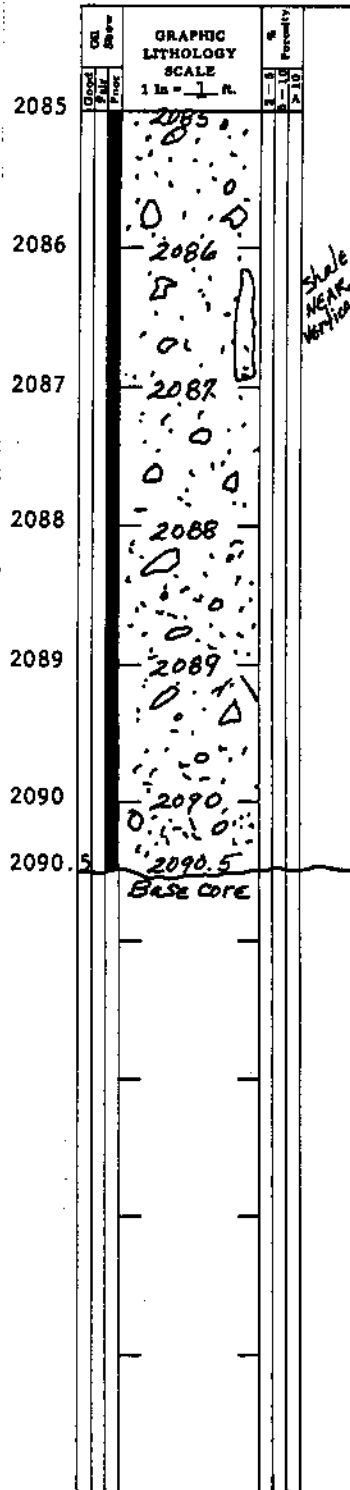
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Well: LISBURNE No. 1 Core No: 2  
Date: July 7, 1979 T.D. 2090.5'  
Interval Cored: 2075'-2090.5' Formation: Fortress Mtn.  
Recovery: 100% Core Diameter: 4 3/4" Inches

GENERALIZED CORE DESCRIPTION: \_\_\_\_\_



DETAILED CORE DESCRIPTION  
Prepared By D. B. Young

2085

2086

2087

2088

2089

2090

2090.5

2087 Sandstone as above w/ sub-horizontal partly calcite-filled fractures with bleeding oil & gas; few vugs with oil with good yellow fluor; black oil stain; tight; slight porosity developed on fractures and in rare vugs - non-effective.

2089 Sandstone, medium-coarse grained, hard, tight, rare vugs w/ trace oil stain; occasional shale and limestone clasts, light gray green, gray, clear, white, black, rarely pink quartz and chert grains with siliceous cement and occasional calcite patch or fracture filling.





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Well: LISBURNE No. 1 Core No: 4  
Date: 7-19-79 T.D. 3910'  
Interval Cored: 3900'-3910' Formation: FORTRESS MOUNTAIN  
Recovery: 9' (90%) Core Diameter: 4 Inches

GENERALIZED CORE DESCRIPTION: Interbedded gray, green-gray shale and siltstone with common siltstone lithiclasts, commonly slickensided, with poorly developed bedding dips of approximately 80 degrees.

Depth (ft)	Oil Shows	Graphic Lithology Scale (1 in = 1 ft)	Perforation	Remarks	Detailed Core Description
3900					
3900.3					Shale, medium-dark gray, medium hard.
3900.7					Sandstone, light gray, v.f.g., hd. grds. in pt. to Siltst.
3901.5					Shale, med.-dk. gy. hard.
3906.5					Sh., dk. gy. w/grn mott., grn-gy. subfissile; comm. sm. pbl - cobblesize lithiclasts consist of m. gy. sld. subang. Siltst. common slickensides; poor bedding dips approx. 80 degrees; some deformation of beds at 3903'; com. frac.; tr. pyr. coated Siltst. nodule w/sheared pyr. xls. tr. poss. dead o. str. on closed frac.
3909					Siltst., m. gy., hd.; intbd. w/Sh., m.-dk. gy., m. hd., hl. slickensided; common closed frac. w/poss. dead o. str. on faces.
3910					No recovery

44

NONE

NONE

86

G

No Recovery 3910



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CONVENTIONAL CORE DESCRIPTION FORM

Well: LISBURNE NO. 1 Core No: 5  
Date: 8/5/79 T.D. 4356'  
Interval Cored: 5340' - 5356' Formation: Okpikruak ?  
Recovery: 16' 100% Core Diameter: 4 Inches

GENERALIZED CORE DESCRIPTION: dark-gray fractured shale with thin stringers of siltstone and a thin bed of calcareous sandstone with dip of 30°, occasional pyrite lenses and large calcite-filled fractures, commonly slickensided

Core Interval (ft)	Lithology	Dip	Porosity (%)	G: Geol	D.P.
5340				G	
5342				G	
5346				G	
5349				G	
5352				G	
5355		30°		G	

DETAILED CORE DESCRIPTION

Prepared By D. B. Young

5340-5354.2 shale, dark gray, hard, brittle, highly crushed, slickensided, slightly silty, slightly calcareous; siltstone nodules; pyrite lenses; some calcite-filled fracs.

5354.2-5354.5 sandstone, tan, medium-coarse grained, with tan calcite cement, rare fossil - possibly crinoid, subrounded, clear quartz, tan clay mineral (prob. altered chert); excellent dip of 30°; fair gas odor on fresh break, slight yellow cut floor, nil to very slight porosity, large calcite-filled fracture dips 70°

5354.5-5356 shale as at 5340

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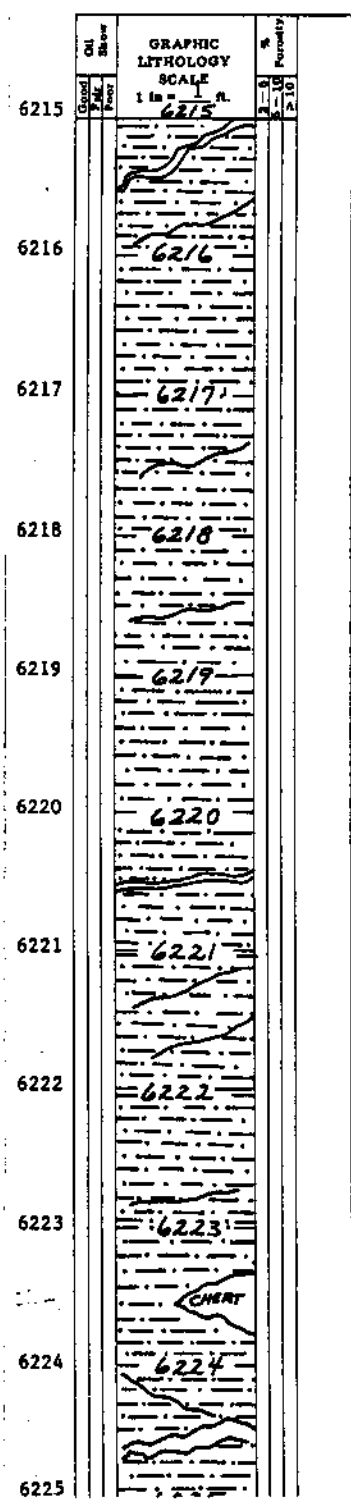
Well: LISBURNE TEST WELL #1 Core No: 6

Date: 8/10/79 T.D. 6225'

Interval Cored: 6215' - 6225' Formation: Fortress Mtn./ Okpikruak Undiff.

Recovery: 10.0' (100%) Core Diameter: 4 1/2 Inches

GENERALIZED CORE DESCRIPTION: Siltst., dk. gy., w/pale green contorted Clyst., scat. chert frags.; core frac. and slickensided.



DETAILED CORE DESCRIPTION  
Prepared By R. Wermeyer

6215 - 6225 Siltstone, dk. gy., firm to mod. hard, micro-mic., loc. pyrite nodules, scat frac. sealed with calcite, freq. frac. & slicked w/ frac varying 0 deg. to 40 deg. rarely 50 degrees; Angular chert inclus. variable 5 mm to 10 mm, very rarely 70 by 100 mm, common slump structures of olive-green and pale green claystone occasionally contorted particularly in intervals 6215-16', 6217-18', 6222-23, and 6224-25', lenses and pods freq. offset by hairline fracs. Core tends to break into small slickensided frags. Scattered blk. tarry or asphaltic residue along fracs w/pale yel. fluor., pale whitish fluor. cur. Rarely shows bleeding gas along fracs. Occ. pods and lenses Sa., lt. gy., v.f. grn., SA/SR, mod. arrd. m. to hd., mod. contd., calc., p. por., N.S. Sb., dk. gy., mod. hd., occ. calcite veinlets. In pt. sil. appear; prob. grds. in pt. to chert.



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CONVENTIONAL CORE DESCRIPTION FORM

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Well: LISBURNE No. 1 Core No: 7  
 Date: 12/4/79 T.D. 8068'  
 Interval Cored: 30' (8038'-8068') Formation: Lisburne  
 Recovery: 30' (100%) Core Diameter: 4 Inches

GENERALIZED CORE DESCRIPTION: Dark gray dolomitic Shale, changing at 8044.5' to massive brown-white mottled dolomite with poor scattered porosity, fair slightly sour gas odor and slight bleeding gas; poor dips and breakage of  $\approx 30$  degrees.

DETAILED CORE DESCRIPTION

Prepared By D.B. Young

Core Depth (ft)	Graphic Lithology Scale (1 in = 1 ft)	Geologic Column	Dip/Inc.	Core Description
8038	8038	G		8038-8044.5' Shale, dark gray, hard, dolomitic in part, siliceous; with patches of brown dolomite; rare near-vertical calcite-filled fractures rarely partly open; traces of black dead oil stain; gassy odor on fresh breaks; no apparent dip.
8041	8041	G		
8044	8044	G		8044.5'-8065.5' Dolomite, gray-brown-white, mottled, calcareous; with nil to slight porosity, pinpoint to 5 mm vugs; slightly sour gas odor; spotty bleeding gas; poorly developed dips occur at 8055-56' of approximately 30 degrees; common poorly preserved Crinoid stems indicate probable bioclastic packstone; No stain, no cut, no fluorescence.
8047	8047	G		
8050	8050	G		
8053	8053	G		
8056	8056	G	Dip 30°	
8059	8059	G		
8062	8062	G		
8065	8065	G	Dip 30°	8065.5'-8068' Dolomite, brown-white; interbedded with Shale, dark gray; slightly brecciated with dark stain on healed vertical microfractures; poorly developed breakage and bedding plane of approximately 30 degrees several large vugs .2cm - 5 cm partly filled with medium crystalline sucrosic dolomite; poorly developed partly open near-horizontal frac; fair gas odor; no cut, no fluor.
8068	8068	G		





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Well: LISBURNE #1 Core No: 8  
 Date: 12/12/79 T.D. 8740'  
 Interval Cored: 8730'-8740' (10') Formation: Lisburne/ Okpikruak  
 Recovery: 8.5' (85%) Core Diameter: 4 Inches

GENERALIZED CORE DESCRIPTION: Shale, varicolored, very dark brown, black, very dark brown, very dark gray, common gilsonite veinlets and pods, fractured and slicked w/gilsonite along most slippage planes.

Depth (Feet)	Oil Show	GRAPHIC LITHOLOGY SCALE 1 in = 3 ft.	Dip	Geochem	DETAILED CORE DESCRIPTION	
					Prepared By	R.A. Wermeyer
8730-8731			50°	G	8730-8731'	Shale, dark gray brown, well compacted, blocky to sub-fissile, impart subconchoidal fracture, common gilsonite veinlets.
8731-8734			50°	G	8731'-8734'	Shale, very dark gray to black, hard, well compacted, with gilsonite along slicked fractures and parting planes of highly variable dip to maximum of 60 degrees, with excellent dip @ 8732' of 50 degrees, becomes slightly earthy 8731.5'-8733'.
8734-8735				G	8734'-8735'	Shale, very dark brown, hard, siliceous, common to abundant gilsonite along fractures and cleavage planes, micro-micaceous.
8735-8736				G	8735'-8736'	Shale, black as above.
8736-8738.5				G	8736'-8738.5'	Shale, very dark gray brown, hard, well compacted, pseudo-siliceous, micro-pyritic, commonly slicked and fractured, scattered to common gilsonite, rare to scattered pyrite pods.
8739					8739	
8740					8740	



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Well: LISBURNE No. 1 Core No: 9  
Date: 12/24/79 T.D. 9738'  
Interval Cored: 9728'-9738' Formation: Lisburne  
Recovery: 10' (100%) Core Diameter: 4 Inches

GENERALIZED CORE DESCRIPTION: Dolomite, very dark brown, v.f. crystalline, micro-sucrosic, scattered recrystallized fossil debris, common sealed fractures and limestone, mottled light and dark brown, slightly dolomitic, very coarse crystalline, occ. slicked or sealed fracture.

Depth (ft)	Oil Show	Graphic Lithology Scale (1 in = 1 ft)	# Fractures	Dip/Frac	Geocenter	Detailed Core Description		
						Prepared By	R.A. Wermeyer	
9728				60°	G	9728.0-9734.8 Dolomite, very dark brown, very finely crystalline, very hard with small black chert nodules to 1/2" and occas. bed to 1". common bituminous (?) material enclosing grains, scattered closed fractures sealed with bituminous (?) material, randomly oriented with fracture and cavity at 9728' lined with euhedral calcite and quartz crystals and at 9732.5 lined with calcite and possible quartz crystals; angle of dip @ 9728' 60 degrees, slickensided fractures @ varying depths dipping 25 to 30 degrees; abundant randomly oriented hairline fractures sealed with calcite and abundant re-crystallized fossil debris in interval 9733-9734.8. Rare re-crystallized crinoid fragments.		
9729								
9730							Faint suggestion of sedimentary structures including possible current ripples. Crystal size suggests original material siltstone replaced by dolomite. Silica replacement prior to or subsequent to dolomitization to form chert nodules and beds.	
9731				25° - 30°				
9732								
9733								
9734								
9735						4734.8-4738.0 Abrupt contact with overlying dolomite limestone slightly dolomitic, mottled light and dark brown, very coarsely crystalline, predominantly re-crystallized lime mud rare fossil debris, rare re-crystallized crinoid fragments, appears very argillaceous (?) between 9736.0 - 9736.3. High-angle calcite-sealed fracture at 9736.5 dipping 65 degrees, slickensided fracture at 9735.8 dipping 35 degrees and at 9736.2 dipping 10 degrees and several horizontal bituminous (?) sealed fractures at 9736'		
9736								
9737								
9738								



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CONVENTIONAL CORE DESCRIPTION FORM

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Well: LISBURNE No. 1 Core No: 10  
Date: 1/11/80 T.D. 11,173'  
Interval Cored: 11,162' - 11,173' Formation: Shublik (?)  
Recovery: 100% Core Diameter: 4 Inches

GENERALIZED CORE DESCRIPTION: Massive dark gray-black intercalated Shale with 30 degree dips, becomes highly fractured at 11,170' with open drusy cavities and calcite-filled fractures.

DETAILED CORE DESCRIPTION  
Prepared By D.B. Young

Depth	Graphic Lithology Scale (1 in = 3 ft)	G-Geol	Dips	Detailed Core Description	
				Interval	Description
11162	11,162	G	25-30°	11,162' - 11,167'	Shale, dark gray-black, hard, slightly calcareous, siliceous, slightly contorted microlaminations, rare small closed calcite vein, occasional patch of black chert.
11165	11,165	G			
11168	11,168	G			
11171	11,171	G			
11173	11,173 Base Core	G		11,170' - 11,173'	Shale, dark gray to black as above becoming highly fractured with large random calcite-filled fractures. Some are partly open and are lined with euhedral drusy calcite, common large vertical slickensides and some bedding-plane slickensides occur; some possible graphite, no odor, no shows of oil or gas, few small bubbles.



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Well: LISBURNE No. 1 Core No: 11  
 Date: January 21, 1980 T.D. 11,691'  
 Interval Cored: 11,686.5' - 11,691' Formation: Lisburne  
 Recovery: 4' (89%) Core Diameter: 4 Inches

GENERALIZED CORE DESCRIPTION: Medium gray dolomite with common small and very large black chert patches, clasts and nodules; common closed random fractures.

Core Interval Feet	GRAPHIC LITHOLOGY SCALE 1 in = 1 ft.	G Grain Size	Dips	DETAILED CORE DESCRIPTION	
				Prepared By	D. B. Young
Top Core 11,686.5'					
11,686.5' - 11,688.5'	Chert, black and light gray, mottled in large and small patches; with minor dolomite, medium gray, finely crystalline, argillaceous, with random healed fractures and local small patches of white calcite, tight; No shows; no dips are apparent.				
11,688.5' - 11,690.5'	Dolomite, gray-brown, fine crystalline, hard, with common patches and possibly clasts of black and light-gray mottled chert; No shows, no porosity.				
11,690.5'	Bottom Recovery				

411

NONE

Tight

No Dips, apparent random fractures



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Well: Lisburne Test Well No. 1 Core No: 12  
 Date: February 26, 1980 T.D. 13,609'  
 Interval Cored: 13,600.7' - 13,609.0' Formation: Endicott Gp (?)  
 Recovery: 7.7' (93%) Core Diameter: 4 Inches

\* GENERALIZED CORE DESCRIPTION: Shale, very dark brown black, very hard, well compacted.

Depth (Feet)	Oil Show	Graphic Lithology Scale	Percentage	
			Clay	Sand
13601		1 in = 3 ft. 13,601		
13604		13,604		
13607		13,607		
13610		Bottom 13,610		

DETAILED CORE DESCRIPTION

Prepared By R.A. Warmeyer

Shale, very dark brown black, very hard, well compacted, slightly siliceous, sub-conchoidal fracture, pods and seams of pyrite to approximately 1/4", rare pods gilsonite, questionable disseminated micro-mica, dip on pyrite seams and lenses 0°, near vertical fracture, closed at 13,601.3' through 13,604.0' with dip of 80°. At 13,603.0' (Top box 2), parallel fractures approx. 1" (one inch) apart appear to enclose a healed crumbled (gouge) zone (best seen on wet surface.)



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*OK. Monte Park*

CONVENTIONAL CORE DESCRIPTION FORM

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Well: LISBURNE No. 1 Core No: 13  
 Date: 3/22/80 T.D. 13,870'  
 Interval Cored: 13,859'-13,870' 5" Formation: Lisburne  
 Recovery: 11' 5" 100% Core Diameter: 2 5/8" Inches

GENERALIZED CORE DESCRIPTION: Limestone, tan-brown crinoidal packstone and grainstone, hard, with contorted siliceous dark Limestone and chert patches, and thin contorted Shale beds dipping at 30 degrees, occasional stylolites, common closed and calcite-filled fractures.

DETAILED CORE DESCRIPTION  
Prepared By D.B. Young

Depth (ft)	Oil Stone	GRAPHIC LITHOLOGY SCALE 1 in = 1 ft.	Gr. Gas. Perm.	Dips
13859				
13860				
13861				
13862				
13863				
13864				
13865				
13866				
13867				
13868				
13869				

*No Shows* (written vertically on the left side of the lithology column)  
*NO POROSITY* (written vertically in the center of the lithology column)

13,859-13,860.3' Limestone, gray-brown, bioclastic, crinoid packstone, very hard, slightly argillaceous, tight.

13,860.3'-13,867.7' Limestone, tan-brown, bioclastic packstone intermixed with contorted dark-gray Limestone, in part siliceous and chert patches and nodules; common dark stained vertical and 40° dipping closed fractures; also 60°-80° calcite-filled fractures; few stylolites near horizontal to 40°; tight, no shows, sulfur odor on fresh breaks.

13,867.7'-13,869' Limestone, brown bioclastic crinoidal grainstone, hard, tight; no shows; common black stained closed fractures dip at 40° to 60°; calcite-filled fractures dip at 80°.



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CONVENTIONAL CORE DESCRIPTION FORM

Well: Lisburne No. 1 Core No: 13  
 Date: 3-22-80 T.D. 13,870'  
 Interval Cored: 13,859'-13,870' 5" Formation: Lisburne  
 Recovery: 11' 5" 100% Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: \_\_\_\_\_

= bioclastic

Depth (ft)	Core Interval	GRAPHIC LITHOLOGY SCALE 1 in = 1 ft		G. Gen./ft	Dips
		Good	Poor		
13869					30°
13870					30°
	13,870' 5"				

*No Shows* (written vertically in the core interval column)

DETAILED CORE DESCRIPTION  
Prepared By D. B. Young

13,869-13,869.8' Limestone, light brown, bioclastic crinoidal grainstone; interbedded with shale, dark gray with poor to fair dips of 30°; stylolites also dip at 30°.

13,689.8-13,670.4' Limestone, light brown, coarsely grained bioclastic crinoid grainstone, hard; with near vertical calcite-filled fractures; tight, no shows.



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Well: Lisburne No. 1 Core No: 14  
 Date: 4/17/80 T.D. 15,342'  
 Interval Cored: 15,328'-15,342' Formation: Lisburne-Kayak transition  
 Recovery: Cut 14', Recovered 12' (86%) Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: Dark-gray medium-hard subfissile highly slickensided pyritic shale; interbedded with buff-gray mottled contorted Limestone with Shaly patches and dark-gray hard siliceous shale.

P 14

US depth	GRAPHIC LITHOLOGY SCALE 1 in = 3 ft	% Pyrite	% Gypsum	Dips	DETAILED CORE DESCRIPTION	
						Prepared By <u>D.B. Young</u>
15328				20°-40°     poor dips	15,328'-15,332.3' Shale, dark gray, medium hard, subfissile, highly slickensided, non-calcareous; with large 4 cm pyrite patches, nodules and lenses and with fair bedding dips of 20° - 40°; trace of bleeding gas, no odor, no shows.	
15331					15,332.3'-15,334.5' Limestone, buff-gray mottled, contorted, large grains possible bioclast with intergranular shaly patches and pyrite patches, hard, tight; with some near-vertical closed micro fractures.	
15334					15,334.5'-15,339.7' Shale, dark gray, hard, siliceous; with occasional patches of medium-hard subfissile shale as at 15,328'.	
15337						
15340						15,339.7'-15,340' Limestone as at 15,332.3' with few calcite-filled fractures dipping 50°
	Bottom of core recovery					





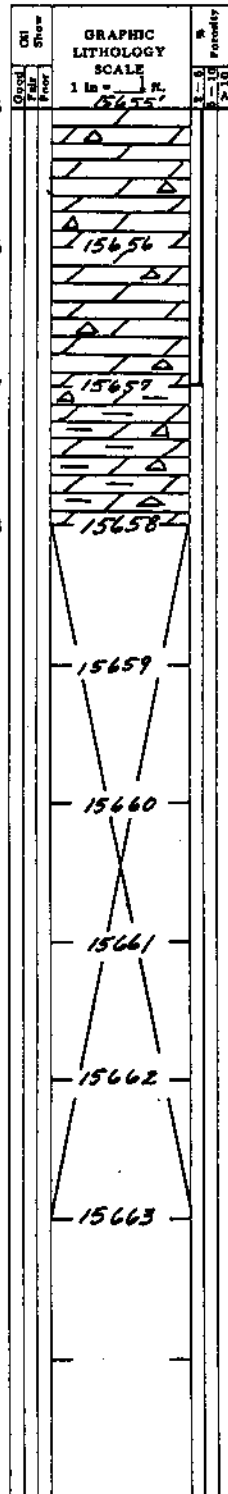
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Well: LISBURNE No. 1 Core No: 16  
Date: April 25, 1980 T.D. 15,663'  
Interval Cored: 15,655'-15,663' Formation: Lisburne  
Recovery: 3' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: Dolo., very limey in pt., med. gry. brn.-buff, f.x.-c.x., stylo., isol. pods of dolo., v. limey, gen. f.x.-med.x., near vertical frac., w/ calc.-filling, scatt. pale brn.gy. cht nod., sm. indist. foss., sm. blk. gilsonite (?) in c.x. part. No fluor. or cut



indist. foss., sm. blk. gilsonite (?) in c.x. part. No fluor. or cut  
DETAILED CORE DESCRIPTION  
Prepared By Fenex

15,655'-15,658' (3.0') Dolomite, very limey in part, medium gray brown to buff, grades from finely to coarse crystalline; argillitic with black carbonaceous material; isolated large pods of Dolomite, very limey, generally fine to medium crystalline; near-vertical fractures with calcite filling; scattered nodules of pale gray brown chert; some near-horizontal laminae; some relict indistinct fossils; scattered black gilsonite in coarsely crystalline fraction; generally well indurated; nil to very poor intercrystalline porosity; no fluorescence or cut. Becomes darker gray brown, argillaceous towards base; highly fractured with nodules of dark-gray chert at base.

15,658'-15,663 (5.0') No Recovery.

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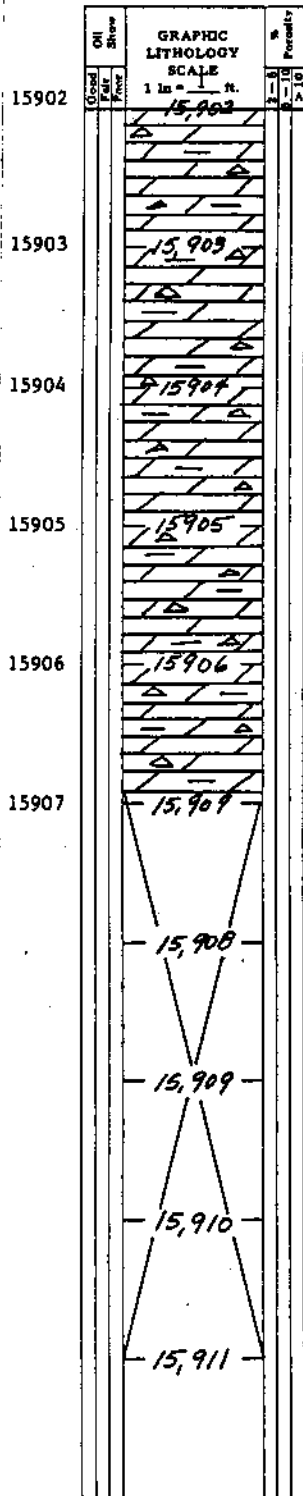
Well: LISBURNE No. 1 Core No: 17

Date: April 30, 1980 T.D. 15,911'

Interval Cored: 15,902'-15,911' Formation: Lisburne

Recovery: 4.8' Core Diameter: 2 5/8 Inches

\*17 GENERALIZED CORE DESCRIPTION: \_\_\_\_\_



DETAILED CORE DESCRIPTION

Prepared By Fenex

15,902'-906.8' (4.8') Dolomite, buff to tan, recrystallized medium to coarsely crystalline, stylonitic with black carbonaceous material, some veining with calcite fill and calcite-filled fractures towards base; common large dark-gray chert nodules, well indurated, dense; nil porosity. Convoluted structure resulting from alternating pods of Dolomite, mottled dark gray brown, argillaceous, siliceous, finely crystalline, well indurated, dense, abundant scattered calcite blebs (recrystallized fossils?); very fractured @ base with dip of 50°-60°.

15,906.8'-911' (4.2') No Recovery



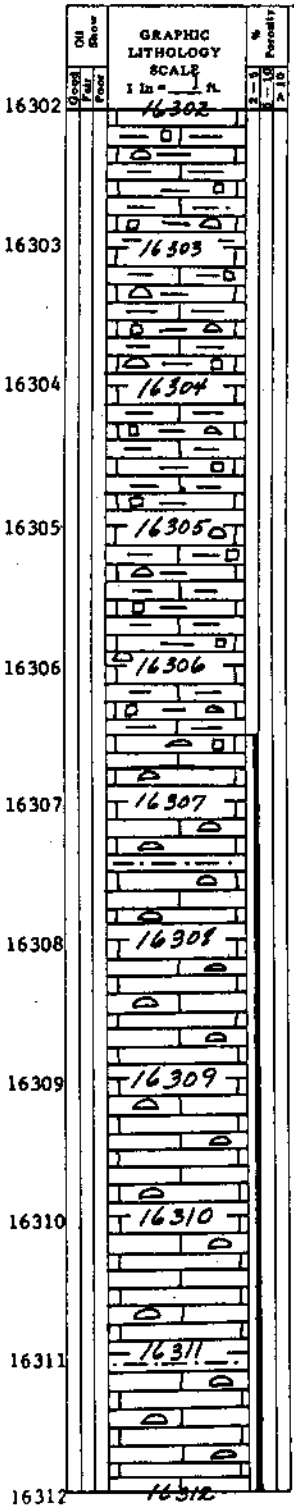
HUSKY OIL NPR OPERATIONS, INC. OK  
U.S. GEOLOGICAL SURVEY/ONPRA

CONVENTIONAL CORE DESCRIPTION FORM

Well: LISBURNE No. 1 Core No: 18  
Date: May 6, 1980 T.D. 16,328'  
Interval Cored: 16,302'-16,328' Formation: Lisburne  
Recovery: 22.5' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: Ls., calcilutite to calcarenite, argill., abnt. foss. frag.

+ / 8



DETAILED CORE DESCRIPTION

Prepared By Fenex

16.302'-306.5' (4.5') Limestone, calcilutitic, very dark gray brown, argillaceous, very fine to finely crystalline, predominately lime mud, abundant very fine to micro pyrite inclusions, scattered large fossil fragments (Crinoids, sponge spicules, brachs.), very well indurated, dense, nil porosity. No fractures.

NOT RECORDED  
MAY 8 1980  
GARY

RECEIVED

MAY 15 1980

ONPRA  
MENLO PARK

16.306.5'-318' (11.5') Limestone, calcarenitic, calcilutitic, medium gray brown, mottled, less argillaceous, medium to coarsely crystalline, predominately re-crystallized lime mud matrix with abundant scattered fossil fragments (Crinoids, etc.), scattered finely disseminated pyrite, abundant scattered near horizontal laminations, w/ occasional streaks (1"-3") of siltstone, dark gray to black, very argillaceous, very calcareous, rare large fossil fragments, very well indurated, dense, with some black chert nodules. Nil to very poor intercrystalline porosity.



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CONVENTIONAL CORE DESCRIPTION FORM

Page 2 of 3

Well: LISBURNE No. 1 Core No: 18  
Date: May 6, 1980 T.D. 16,328'  
Interval Cored: 16,302'-328' Formation: Lisburne  
Recovery: 22.5' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: \_\_\_\_\_

Depth (ft)	Core No.	GRAPHIC LITHOLOGY SCALE		Perforation
		1 in = 1 ft	1 in = 1 ft	
16312		16312		
16313		16313		
16314		16314		
16315		16315		
16316		16316		
16317		16317		
16318		16318		
16319		16319		
16320		16320		
16321		16321		
16322		16322		

DETAILED CORE DESCRIPTION

Prepared By Fenex

16,306.5' - 318' (11.5') Cont.

16,318'-320' (2.0') Siltstone, black, very argillaceous, very calcareous, rare large fossil fragments (Crinoids, etc.), horizontal slickensides, micro-pyritic.

16,320'-324.3' (4.3') Limestone, calcarenitic, calcarenitic, medium to dark gray brown, mottled, essentially a/a, but becoming more argillaceous, medium to finely crystalline, pyritic.



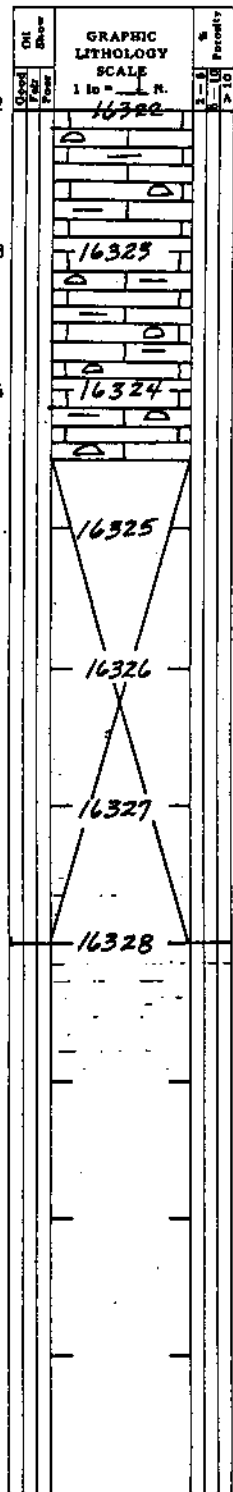
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U.S. GEOLOGICAL SURVEY/ONPRA

CONVENTIONAL CORE DESCRIPTION FORM

Page 3 of 3

Well: LISBURNE No. 1 Core No: 18  
 Date: May 6, 1980 T.D. 16,328'  
 Interval Cored: 16,302'-328' Formation: Lisburne  
 Recovery: 22.5' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: \_\_\_\_\_



DETAILED CORE DESCRIPTION  
Prepared By Fenex

16,320'-324.5' (4.5') Cont.

16324.5'-328' No Recovery



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CONVENTIONAL CORE DESCRIPTION FORM

Page 1 of 2

Well: Lisburne No. 1 Core No: 19  
Date: May 15, 1980 T.D. 16,875.5'  
Interval Cored: 16,859'-875.5' Formation: Lisburne  
Recovery: 12' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: Limestone, calcarenitic, calcilutitic, w/ abundant black shale laminations and intercalations and black chert nodules.

Depth (ft)	Graphic Lithology Scale (1 in = 1 ft)	Porosity (%)	Grain Size (mm)
16859	16859		
16860	16860		
16861	16861		
16862	16862		
16863	16863		
16864	16864		
16865	16865		
16866	16866		
16867	16867		
16868	16868		
16869	16869		

DETAILED CORE DESCRIPTION

Prepared By Fenex

16,859'-869' (10.0') Limestone, calcarenitic, calcilutitic, mottled gray brown to dark gray brown, predominantly lime mud matrix, recrystallized gray brown, finely to medium crystalline, becoming very argillaceous; grading into shale, black, abundant large fossil fragments (Brachiopoda, Crinoids, etc.); rare near-vertical closed calcite-filled microfractures; banded and pod appearing sedimentary structures (ripple undulation); abundant shale laminations with intercalated shale, black, smooth texture, siliceous, platy, micro-pyritic, very well indurated, brittle with abundant black chert nodules.



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CONVENTIONAL CORE DESCRIPTION FORM

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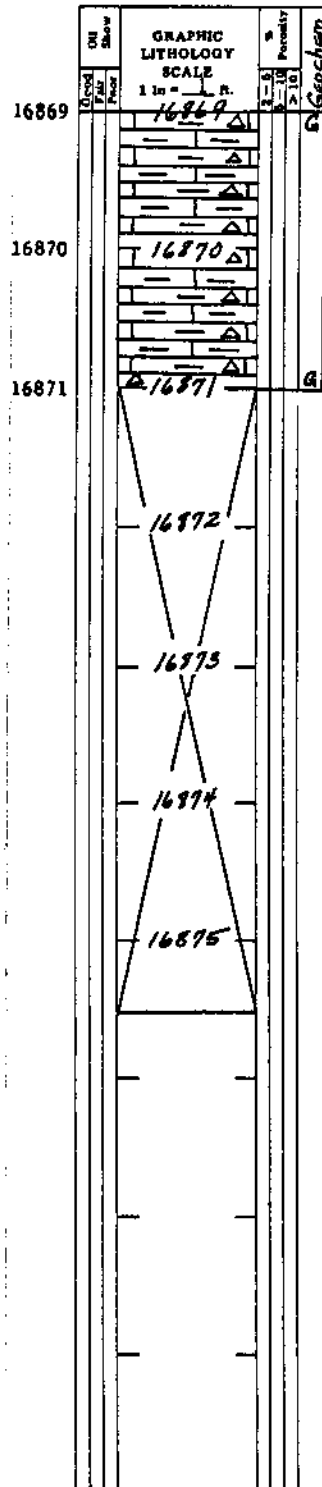
Well: Lisburne No. 1 Core No: 19

Date: May 15, 1980 T.D. 16,875.5'

Interval Cored: 16,859'-875.5' Formation: Lisburne

Recovery: 12' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: \_\_\_\_\_



DETAILED CORE DESCRIPTION

Prepared By Fenex

16,869-871' (2.0') Limestone, calc. lentic, dark gray  
brown, very argillaceous, crypto-crystalline,  
very well indurated, brittle, dense; with abundant  
black chert layers and nodules; calcite-filled  
microfractures.

16,871'-875.5' (4.5') No Recovery



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CONVENTIONAL CORE DESCRIPTION FORM

Page 1 of 2

Well: Lisburne No. 1 Core No: 20

Date: May 19, 1980 T.D. 17,000'

Interval Cored: 16,982' - 17,000' Formation: Lisburne

Recovery: 14.5' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: Limestone, calcilitic, sl. calcarenitic, very argillaceous, rare calc.-fill. fract., rare chert nodules.

Core No.	Depth (ft)	GRAPHIC LITHOLOGY SCALE		Grain Size	Porosity	Geo. Chem.
		1 in. = 1 ft.	1 in. = 1 ft.			
16982						
16983						
16984						
16985						
16986						
16987						
16988						
16989						
16990						
16991						
16992						

DETAILED CORE DESCRIPTION  
Prepared By Fenex

16,982'-16,996.5' (14.5') Limestone, calcilitic, slightly calcarenitic, dark gray brown, finely crystalline, rare to common large fossil fragments (Crinoids, etc.) in lime mud matrix, very argillaceous; rare near-vertical closed fractures; abundant black shale laminations; rare black chert nodules; well indurated, brittle, dense; nil porosity.





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CONVENTIONAL CORE DESCRIPTION FORM

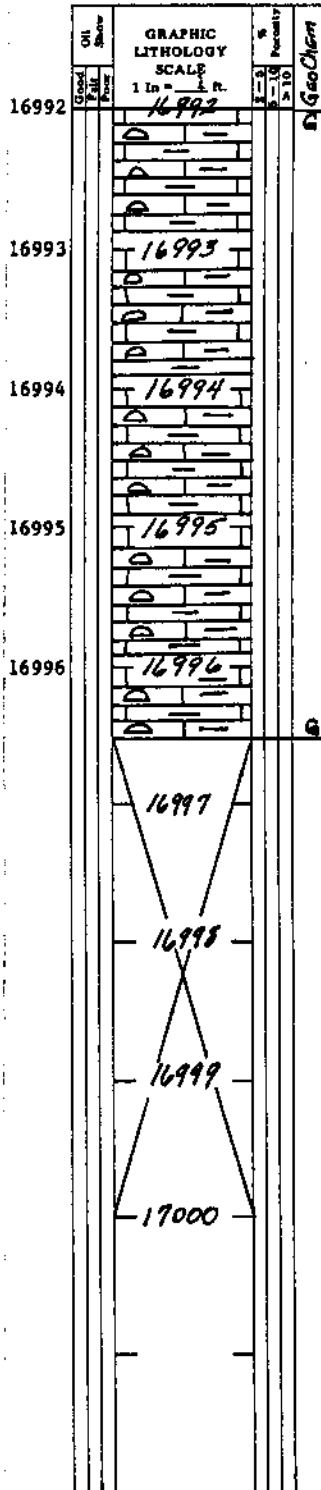
Well: Lisburne No. 1 Core No: 20

Date: May 19, 1980 T.D. 17,000'

Interval Cored: 16,982'-17,000' Formation: Lisburne

Recovery: 14.5' Core Diameter: 2 5/8 Inches

GENERALIZED CORE DESCRIPTION: \_\_\_\_\_



DETAILED CORE DESCRIPTION

Prepared By Fenex

16,982'-16,996.5' (14.5') Cont.

16,996.5'-17,000' No Recovery